

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-11. (Canceled).

12. (Currently Amended) A circuit arrangement comprising:

a low-temperature circuit for cooling charge air that is fed to an engine in a motor vehicle equipped with turbochargers,

wherein the low-temperature circuit comprises:

a first low-pressure turbocharger for compressing the charge air in a first compressing stage;

a second high pressure turbocharger for compressing the charge air in a second compressing stage;

a first cooler provided downstream of the low-pressure turbocharger and upstream of the high-pressure turbocharger for cooling the charge air in a first cooling stage;

a second cooler provided downstream of the high-pressure turbocharger and upstream of the engine for cooling the charge air in a second cooling stage, wherein the second cooler comprises a high-pressure charge air/air cooler; and

a third cooler, wherein the third cooler is a low-temperature cooler configured such that low-temperature coolant from the first cooler flows through the low-temperature cooler, wherein the high-pressure charge air/air cooler is arranged alongside the low-temperature cooler and, seen in a direction of air flow of cooling air, upstream of a main coolant cooler.

13. (Previously Presented) The circuit arrangement as claimed in claim 12, wherein the low-temperature cooler and the high-pressure charge air/air cooler form a cooling module, wherein a front face of the low-temperature cooler takes up 20% to 50% of a total front surface of the cooling module.

14. (Previously Presented) The circuit arrangement as claimed in claim 12, wherein the first cooler comprises a low-pressure charge air/coolant cooler.

15. (Previously Presented) The circuit arrangement as claimed in claim 12, wherein the motor vehicle comprises an engine cooling circuit, wherein the low-temperature circuit is independent of the engine cooling circuit and has its own pump for delivering coolant.

16. (Previously Presented) The circuit arrangement as claimed in claim 15, wherein the pump in the low-temperature circuit is arranged between the low-temperature cooler and the first cooler or between the first cooler and the low-temperature cooler.

17. (Previously Presented) The circuit arrangement as claimed in claim 12, wherein the low-temperature circuit is part of an engine cooling circuit.

18. (Previously Presented) The circuit arrangement as claimed in claim 17, wherein the low-temperature circuit branches off from a pressure side of a pump from the engine cooling circuit and is fed back to the engine cooling circuit at an engine outlet.

19. (Previously Presented) A circuit arrangement comprising:

a low-temperature circuit for cooling charge air that is fed to an engine in a motor vehicle equipped with turbochargers,

wherein the low-temperature circuit comprises:

a first low-pressure turbocharger for compressing the charge air in a first compressing stage;

a second high pressure turbocharger for compressing the charge air in a second compressing stage;

a first cooler provided downstream of the low-pressure turbocharger and upstream of the high-pressure turbocharger for cooling the charge air in a first cooling stage;

a second cooler provided downstream of the high-pressure turbocharger and upstream of the engine for cooling the charge air in a second cooling stage, and

a third cooler, wherein the third cooler and the second cooler form a cooling module, wherein a front face of the third cooler takes up 20% to 50% of a total front surface of the cooling module,

wherein the low-temperature circuit is part of an engine cooling circuit.

20. (Previously Presented) The circuit arrangement as claimed in claim 19, wherein the low-temperature circuit branches off from a pressure side of a pump from the engine cooling circuit and is fed back to the engine cooling circuit at an engine outlet.

21. (Previously Presented) The circuit arrangement as claimed in claim 19, wherein the first cooler comprises a low-pressure charge air/coolant cooler.

22. (Previously Presented) The circuit arrangement as claimed in claim 19, wherein the second cooler comprises a high-pressure charge air/air cooler.

23. (Previously Presented) The circuit arrangement as claimed in claim 22, wherein the third cooler is a low-temperature cooler.

24. (Currently Amended) A circuit arrangement comprising:
a low-temperature circuit for cooling charge air that is fed to an engine in a motor vehicle equipped with turbochargers,

wherein the low-temperature circuit comprises:

a first low-pressure turbocharger for compressing the charge air in a first compressing stage;

a second high pressure turbocharger for compressing the charge air in a second compressing stage;

a low-pressure charge air/coolant cooler provided downstream of the low-pressure turbocharger and upstream of the high-pressure turbocharger for cooling the charge air in a first cooling stage; and

a high-pressure charge air/air cooler provided downstream of the high-pressure turbocharger and upstream of the engine for cooling the charge air in a second cooling stage, and

a third cooler that receives coolant from the low-pressure charge air/coolant cooler,

wherein the high-pressure charge air/air cooler is configured to use air flow of cooling air in a main cooling circuit upstream of a main coolant cooler as seen in a direction of the air flow of the cooling air.

25. (Currently Amended) The circuit arrangement as claimed in claim 24, ~~further comprising a third cooler~~, wherein the third cooler is a low-temperature cooler, and wherein the high-pressure charge air/air cooler is arranged alongside the low-temperature cooler.

26. (Previously Presented) The circuit arrangement as claimed in claim 25, wherein the low-temperature cooler and the high-pressure charge air/air cooler form a cooling module, wherein a front face of the low-temperature cooler takes up 20% to 50% of a total front surface of the cooling module.

27. (Previously Presented) The circuit arrangement as claimed in claim 24, wherein the motor vehicle comprises an engine cooling circuit, wherein the low-temperature circuit is independent of the engine cooling circuit and has its own pump for delivering coolant.

28. (Currently Amended) The circuit arrangement as claimed in claim 27, wherein the pump in the low-temperature circuit is arranged between ~~the third a low-temperature~~ cooler and the low-pressure charge air/coolant cooler or between the low-pressure charge air/coolant cooler and the third low-temperature cooler.

29. (Previously Presented) The circuit arrangement as claimed in claim 24, wherein the low-temperature circuit is part of an engine cooling circuit.

30. (Previously Presented) The circuit arrangement as claimed in claim 29, wherein the low-temperature circuit branches off from a pressure side of a pump from the engine cooling circuit and is fed back to the engine cooling circuit at an engine outlet.

31. (Currently Amended) A method for operating a circuit arrangement, wherein the circuit arrangement comprises a low-temperature circuit for cooling charge air that is fed to an engine in a motor vehicle equipped with turbochargers, comprising:

compressing the charge air in a first compressing stage with a first low-pressure turbocharger,

cooling the charge air in a first cooling stage using a low-pressure charge air/coolant cooler provided downstream of the low-pressure turbocharger and upstream of a second high-pressure turbocharger, wherein coolant from the low-pressure charge air/coolant cooler flows into a coolant/air cooler;

further compressing the cooled charge air in a second compressing stage with the second high-pressure turbocharger; and

cooling the further compressed charge air in a second cooling stage using a high-pressure charge air/air cooler provided downstream of the high-pressure turbocharger and upstream of the engine,

wherein the high-pressure charge air/air cooler is configured to use air flow of cooling air in a main cooling circuit upstream of a main coolant cooler as seen in a direction of the air flow of the cooling air.

32. (Previously Presented) The method for operating a circuit arrangement as claimed in claim 31, wherein the charge air after the first cooling stage has a temperature of between 40°C and 110°C.